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Youth Well-Being in Brazil

An Index for Cross-Regional Comparisons

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I. Introduction

Many studies present the status of youth in Brazil. They tell us about secondary education attainment rates (World Bank, 2000; Soares, Carvalho, Kipnis, 2003; *Waiselfisz et al., 2004;* Rodriguez and Herran, 2000), youth violence (Waiselfisz, 2004; Abramovay et. al., 2003; Abramovay and Rua, 2002; Human Rights Watch, 2003), youth unemployment (Bonelli, Reis, and Veiga 2004), youth participation (Weiss, 2004; Instituto Cidadania, 2004), and a myriad of other factors that we use to determine how well youth are surviving their transition from childhood to adulthood.[1] While these various indicators are useful to understand the status of youth for a single indicator or, at best, in a single sector, they cannot be summed to give us a measure of the overall well-being of Brazilian youth.[2] Instead, we are limited to discussing how well youth fare relative to adults or to other youth by comparing a list of single indicators. Some show youth are doing well while others show that they are not doing so well, making it difficult to assess the overall status across the many dimensions of youth well-being. Thus, it would be useful to have a single indicator that summarizes the multi-dimensionality of youth well-being in order to allow for comparisons across regions of Brazil as well as track progress over time as the Government, the non-governmental sector, communities, families, and youth work to improve the situation of Brazilian youth.[3]

Such an index was created for the United States by researchers at Duke University in the United States. The Child Well-Being Index (CWI) uses 28 key indicators in the areas of health, relationships, material goods, behavior, labor market, community, and emotional/spiritual well-being indicators to create a single index for children and youth in

[1] The period "youth" is difficult to define due to the many different criteria that can be used to specify the period. Some disciplines base it on biological change, such as the period when the body changes from being a child to being an adult. Others base it on economic transitions – being a household dependent to earning one's own keep – or social transitions – being a household dependent to being a household head. This leads to very different age periods to capture "youth", as well demonstrated by the wide range of ages used for youth policies or in research. The common thread among all these definitions is that the youth period is one of transition (World Bank, 2003; Lloyd 2004).

[2] Well-being has been defined as quality of life, and refers to objective and subjective aspects of the human existence (Cummins 1996). Objective aspects concerns facts or behavior, which can be operationally observed and measured. Subjective aspects are associated with perceptions of facts and behaviors of daily life.

[3] The international community is increasingly recognizing the need indices to measure welfare. The United Nations has created a Human Development Index, using four simple indicators. More recently, the Commonwealth Youth Programme-Caribbean Office has been developing a youth index for its member countries.

the United States.[4] Using the year 1975 as a base (taking a value of 100), the research teams have calculated the index every year, thus providing a measure of progress of children (roughly ages 0-17) both in the United States and in each state. Primary conclusions from the 1975-2003 period include the observation that children's well-being has not increased monotonically over time, but it fell in the 1980s and rose only slightly above its 1975 levels by 2003; the limited improvement is largely due to increasing obesity in the 1990s, but this has been counter-balanced by improvements in violence; and children of all races seem to be improving their well-being.

This study aims to construct a Brazilian Youth Well-Being Index (YWI), based on indicators that are appropriate to, and available in, Brazil. It uses readily available data to calculate the YWI for each state, thus allowing for a comparison of the well-being of youth across Brazil. The hope is that the paper will sufficiently present the methodology such that the exercise can be repeated annually, thus allowing a tracking of the well-being of youth in each state over time and monitoring the status of all youth in Brazil across time.[5]

Three indices are developed in this paper. First, the Youth Well-Being Index (YWI) is comprised of indicators that are relevant only to today's youth, defined as those age 15-24.[6] These indicators include many of those indicators that are reported for youth in the general literature, and classified into: behaviors (youth violence, teen pregnancy, substance use); health outcomes that are a result of risk-taking behaviors (HIV/AIDs

[4] The indicators, by domain, used by the Duke University study are: (i) material well-being - poverty rate, secure parental employment rate, median annual income, percent of children with health insurance coverage; (ii) social relationships - percent of children in families headed by a single parent, percent of children who moved in the last year; (iii) health - infant mortality rate, low birth weight rate, mortality rate ages 1-19, percent of children with very good/excellent health, percent of children with activity limitations, percent of overweight children and adolescents; (iv) safety/behavioral concerns - teenage birth rates; percent of violent crime victimization, percent of violent crime offenders, rate of cigarette smoking, rate of alcoholic drinking, rate of illicit drug use; (v) productivity (educational attainment) - reading test scores, mathematics test scores; (vi) place in community - percent of pre-school enrollment, percent of persons who have received a high school diploma, percent of youth not working and not in school, percent of people who have received a bachelor's degree, rate of voting in presidential elections; and (vii) emotional/spiritual well-being - suicide rate, rate of weekly religious attendance, percent who report religion as being very important.

[5] The CWI created by Duke University is reported regularly in the popular press (*New York Times*, *National Public Radio*) and is the subject of academic conferences and publications (Brookings Institute - http://www.brook.edu/comm/events/20040324.htm, http://www.brookings.edu/es/ccf/pubs_index.htm)

[6] This is roughly the age range used in this paper. The exact age range could not be used since the exercise in this paper intentionally uses existing indicators, which themselves use a variety of age ranges.

infection); school performance that can be a result of risk-taking behavior (such as low school attendance) or can be a predictor of limited future integration in society; and institutional connectedness[7] – to school, the labor market, and to the political process (voting patterns).

The YWI is a static picture of youth today, but it is also possible to get an idea of how the youth of tomorrow will fare, by expanding the YWI to include indicators for children, via the Child-Youth Well-Being Index (C-YWI). The C-YWI expands our understanding of youth development beyond the situations facing 15-24 year old youth today and brings into consideration the importance of investments early in life that will prepare individuals once they reach the youth period. The C-YWI includes all those indicators used for the YWI as well as health, school performance, and institutional connectedness indicators pertaining to today's children. This is useful since it gives information not only about today's youth, but also about the next generation of youth.

Finally, a General Youth Well-Being Index (GYWI) is created, which includes the set of variables in the C-YWI, as well as factors that affect the environment in which children and youth learn their preferences, face their constraints, and make their decisions. This index is derived from a theory of youth development that posits that youth are products of their environment (Bronfenbrenner, 1979), so to measures the well-being of youth in a state, it is reasonable to include measures of the environment, as well. Kohler, et. al. (2005) found that low poverty, high parental education, presence of both parents in the household, and positive community well-being are important correlates of positive youth behaviors in Brazil. To capture these influences, a category of variables capturing the socioeconomic level of each state is included, which include factors such as poverty or the share of single-parent households.

[7] The concept of "connectedness" is commonly used in the public health literature to describe the extent to which a person feels a part of a relationship, institution, community, or other group (Blum 1997). Thus, for example, parental connectedness is not achieved by a parent simply spending time with a child, but instead it requires an interaction such that the child feels that the adult cares. Similarly, connectedness to school is a feeling of "belonging" which often results in continued attendance). While standard indicators do not capture "connectedness", we can measure a result of connectedness, which is participation in institutions, which may be a proxy of the less measurable concept.

II. Data and Methodology

The Brazilian Youth Well-Being Index uses as its starting point the index created by Duke University, departing from it based on data availability and appropriateness of indicators for the Brazil case.

Data

Thirty-six indicators are used to construct the indices, which can be grouped into five categories (columns 1 and 2 of Table 1).[8] Health includes indicators on infant mortality and on AIDS. Behavior variables are those that measure the outcomes of risk-taking behaviors, such as adolescent pregnancy (a result of risky sex), homicide/suicide, and substance use. AIDS is not included here recognizing that, in some instance, it may not be a result of risk-taking behaviors. School performance includes graduation rates, literacy, average education, and performance on standardized tests. Institutional connectedness variables include young people's interaction with public institutions, including school, the labor market, and voting. Finally, the socioeconomic conditions include indicators related to poverty and household structure. The indicators in each category are presented in Table 1.

The indicators were selected based on two criteria. First, they must be indicators that are commonly used to track the well-being of youth and/or children. This includes indicators that are regularly used in various sectors to assess the situation of youth, indicators of childhood investment that have been shown to have significant impacts on the youth period, and general factors exogenous to the young person but important for his/her development (Bronfenbrenner, 1979, Kohler, 2004).[9]

Second, they must be easily available to allow for future researchers to replicate this exercise. Since the indices are calculated at the state level, the set of potential

[8] While the US CWI uses seven categories (or "domains," as used in Duke University, 2003), we collapse some of the categories from the US CWI, based on data availability and the youth development models that form the basis of the choice of variables for the Brazilian YWI.

[9] A commonly used model in the public health field to understand youth development is the ecological risk framework. The basic premise is that youth are a product of their own "hardwiring" and of their environment, which includes spheres of family, community, institutions, and the macro-environment). The correlation between a negative environment and negative youth behaviors has been found to be very strong in the United States (Blum, 2002), the Caribbean (World Bank, 2003), and Brazil (Kohler, et. al. 2005), and new evidence in the United States suggests causal relationships (Roche, Ahmed, and Blum).

variables is more limited than if we used national indicators. The data used in this exercise are primarily from 2002, the most recent year for which most indicators were available. However, educational performance tests indicators and substance use indicators were only available for 2001. The source of the indicators is given in Table 2, and are easily accessible to the public.

Most of the indicators on socioeconomic status and connection to institutions were obtained from the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* - IBGE) and IPEA (*Instituto de Pesquisa Econômica Aplicada* - Institute of Applied Economic Studies). These institutions utilize census data and regular household surveys to calculate various indicators periodically, which are reported on the institutions' web pages.

A smaller set of indicators are taken from the administrative data of Ministries and other government institutions. The Ministry of Labor and Employment's data base was used to derive the share of the population in formal sector employment, defined as those with a signed work card (*carteira de trabalho assinada*). The RAIS database is a census of all workers with signed work cards, thus giving an exact count of formal sector workers, as well as basic demographic information that allows identifying the state of origin and age of workers, among other characteristics. To create a ratio, data from the 2000 Census, managed by the IBGE, was used.

The share of 16-17 year olds who vote was obtained from the Superior Electoral Court (*Tribunal Superior Eleitoral*) and IBGE. The former provides the number of people who voted in the 2002 elections, by state and age level. The latter is used to create a ratio.

The indicators for test scores and school attendance were reported on the Ministry of Education's administrative data bases. The scores on the math and Portuguese language tests are taken from the National System of Assessment in Basic Education (*Sistema Nacional de Avaliação da Educação Básica* - SAEB). These tests are given annually, across Brazil, to measure the progress of learning of Brazilian students in the 4^{th}, 8^{th} and 11^{th} grades (last year of education before tertiary).

Health indicators – neo-natal mortality, infant mortality, adolescent morbidity, and AIDS – were presented in the Ministry of Health data bases. Data on the hospital

morbidity of adolescents due to external causes is taken from the Hospital Information System from the Unified Health System (*Sistema de Informacoes Hospitalares do SUS*), managed by the Ministry of Health and fed by information from hospitals at the municipal and state level. It provides information on most hospital admissions in Brazil, as well as the reason the patient was omitted to the hospital. Admissions due to homicide, traffic accidents, suicide, and firearms are classified as "external causes." The AIDS rates (per 100,000 individuals) were calculated by the Ministry of Health data, which identifies age and state of residence of each AIDS sufferer. Again, the 2000 Census data are used to create the indicator.

Finally, a few indicators are derived from very specific studies. The separate indicator for "homicide rate" and "suicide rate" in Table 1 are distinct from "external causes." They are derived from the Violence Map IV, which was constructed by UNESCO, the Presidential Special Office for Human Rights, and the Ayrton Senna Institute. The choice was made to include both "external causes" and "homicide rate" in the calculation of our indices since adolescent victims of homicide are not always admitted to hospitals. Similarly with "suicide rates," since they may be classified as death due to accidental factors rather than as a violent act in itself.

Indicators concerning the use of alcohol, tobacco, marijuana, and cocaine were obtained from the (First) Household Survey on the Use of Psychotropic Drugs in Brazil, from CEBRID (2001). The survey encompassed a sample across the 107 largest cities in Brazil, which included all cities with more than 200,000 inhabitants and all state capitals. The indicators presented by CEBRID are regional indices, so for the purposes of creating the indices in this paper, each state was assigned the value of the region where the state lies.

Methodology

Three indices are calculated in this paper; the indicators included in each index are indicated in Table 1. The Youth Well-Being Index includes only those indicators pertinent to adolescents, principally ages 15-24. Not all indicators span this specific age period, since different institutions use different age cut-offs in the creation of their indicators. The Child-Youth Well-Being Index includes all the indicators in the YWI as

well as additional health, school, and institutional indicators that pertain to those age 0-14. The General Well-Being Index includes all indicators in the table, thus capturing the actions of youth today, the "head start" that tomorrow's youth are getting, and the general environment in which they are growing up.

The creation of the index is not as simple as summing the indicators since all are on different scales. Instead, it is necessary to standardize each indicator on a single scale and to use that transformed value to generate the index.

Since high values of some indicators indicate greater well-being, such as higher test scores, while high values in other indicate poor well-being, such as homicide rates, it is necessary to convert the values such that the magnitude of the index had meaning. For this exercise, we assume that a high standardized value indicates high well-being. Thus, to standardize the value of those indicators that have higher values for high well-being, the following formula is used:

$$IS_{js} = \frac{I_{js} - I_j}{\sigma_j} * 10 + 100 \qquad (1)$$

Where IS_{js} is the standardized indicator j (j=1…25 for the YWI; j=1…31 for the C-YWI; and j=1…36 for the GYWI) for state s (s=1…27), I_{js} is the gross value of indicator j for state s, I_j is the gross value of indicator j for the whole country, and the denominator is the standard error of indicator j for the country. The national-level mean is generated by summing the state-level indicator values and dividing by the number of states (27). Thus, the I_j is not weighted by the population size of the state. This assumption was driven by the data since some of the indicators did not have a nationally-weighted I_j. If we let $I_{js}=I_j$, then $I_{js}=100$; i.e. the national average takes a value of 100, and is a base against which all IS_{js} can be compared.

For those indicators where a higher value indicates lower well being:

$$IS_{js} = -\frac{I_{js} - I_j}{\sigma_j} * 10 + 100 \qquad (2)$$

The simple mean of the standardized scores is calculated for each state (s):

$$I_s = \frac{\sum_{j=1}^{n_i} IS_{sj}}{n} \qquad (3)$$

Where n_i=25 for i=1, corresponding to the YWI; n_i=31 for i=2, corresponding to the C-YWI; and n_i=36 for i=3, corresponding to the GYWI. I_s is the index for state s=1…27.

This method assumes an equal weighting of each indicator. While it may be argued that some variables should carry a higher weight, the literature does not indicate how to best weight such a diverse set of indicators.[10]

The raw value of the indicators and the standardized score for each indicator and each state is given in Annexes 1-5. Each table presents the indicators for each of the five categories of indicators being used: health, behaviors, school performance, institutional connectedness, and socioeconomic characteristics.

III. **Results**

Youth Well-Being Index

The Youth Well-Being Index shows that youth in the Northeast are the worst off, while those in the Central-West and Southeastern states are faring the best (Table 3). Youth in Penambuco and Alagoas have the lowest scores, faring six and 5.3 percent worse than all Brazilian youth across the full range of indicators (Figure 1). Both states have very low ratings in all youth behaviors, school performance, and connection to local institutions, while most other states excel in some areas more than others. Youth in Santa Catarina and the Federal District fare 6.1 and 5.1 percent better than the national average. Their higher than average performance can be attributed to particularly high school performance, school advancement and formal sector employment in Santa Catarina and employment opportunities, secondary education attendance, school performance, and low substance abuse in the Federal District.

While the YWI neatly ranks the states by the well-being of its young constituents, a disaggregation of the index shows that the well-being of youth is not consistently good or bad across categories. For example, while the Federal District has the highest ranking

[10] The US CWI gives an equal weighting to each category of variables, thus calculating I_s for each of the seven groups of variables, then summing the indicator and dividing by seven. This necessarily gives higher weight to each indicator in a category with fewer variables, which is based on data availability, rather than a judgment of the greater importance of those variables. To avoid such spurious assignment of importance to variables based on how indicators are entered into the equations, we take a simple mean across all variables, giving equal weight to each.

on the YWI, and ranks first in connectedness to institutions, it ranks 17th (of 27) in health. Conversely, Amazonas ranks 23rd overall, but it ranks fifth in the health indicators. The correlation between the ranking for the YWI and categories of indicators is very low for health and behaviors – 0.3 and 0.22 respectively – and very high for school performance (0.81). The correlation between the YWI and socioeconomic indicators, which are exogenous to the YWI is also fairly high, at 0.68 (last row of Table 3).

Both the indicators that comprise the health category have high values for the Southern states and low values for the Northern states (Annex 1). The incidence of AIDS is reported to be consistently higher in the Southern states (14 per 100,000 youth) and lower in the Northeast (3 per 100,000 youth) (Figure 2). For example, nine states, all in the North and Northeast, report zero AIDS incidence among 10-17 year olds in 2002. This may be linked due to the fact that the epidemic started in the Southeast and is still concentrated, while incidence is lower, but increasing, in the North and Northeastern Regions (NAH/MoH, 2005). Related to this is the significant under-reporting in the North and Northeast, partly due to fewer for well-trained professionals to identify and report AIDS incidence as the epidemic grows in these areas (NAH/MoH, 2005).

The behavior category, with eight indicators, is not as consistently skewed, but a few indicators stand out, particularly in the Southeast (Figure 3). Homicide rates in the Southeast, the home of Rio de Janeiro and São Paulo, are particularly elevated. While fewer than 50 of every 100,000 youth die of homicide in the other four regions, nearly 84 do in the Southeast. Alcohol and tobacco use is also much higher in the South and Southeast than in the rest of the country (Annex 2).

Further disaggregating the indicator categories, a few specific behaviors are worth noting due to their importance in determining the future of Brazil's youth and their high variance across the country. In the Northern and Northeastern states, adolescent pregnancy rates were higher. They varied from 26.8 percent in Tocatins to 16.5 percent in the Federal District to (national average of 21.8 percent). This is a concern since early pregnancy increases mortality rates for women and their children (Pinto e Silva, 1998, www.ibge.gov.br).

In terms of participation in educational and labor institutions (Annex 3 & 4), youth connectedness to the former breaks earlier and connectedness to the latter begins

earlier in the Northeastern states. While most regions have school participation rates of 15-17 year olds that exceed 80 percent, all Northeastern states show rates below 80 percent, with the exception of Bahia. Further, the share of 10-17 year olds working and studying exceeds 25 percent in several states in the Northeast (Piauí, Ceará, Maranhão), unlike in the rest of the country. This is not to say that youth in other states do not have close connections with institutions, as shown by the difficulty of labor force attachment by youth in the Southeast, where they both enter the workforce early (about 22 percent of 10-17 year olds are working) and they face the highest unemployment rates.

The North and Northeast do not fare poorly in all indicators, though, as they show much greater rates of political participation than do youth elsewhere. More than half of 16-17 year olds voted in the 2002 elections in four Northern (of 7) and three Northeastern (of 9) states. The voting rates rarely exceeded 35 percent in the other regions.

Brazilian Child-Youth Well-Being Index

To capture how well each state in Brazil is preparing its youth of tomorrow, the YWI is expanded to include measures of investment in today's children. This expansion addresses some of the methodological issues discussed above, such as additional variance in the health category, with the addition of two new indicators.

The Child-Youth Well-Being Index (C-YWI) closely tracks the YWI (Figure 4), suggesting that the well-being of youth in each state in the near future will continue to rank similarly to that of this generation (correlation coefficient of 0.91). The five states with the best YWI scores – Federal District, Santa Catarina, Goiás, São Paulo, and Minas Gerais – have the top C-YWI scores, though the ordering has slightly changed (Table 4). Similarly, the bottom seven scores – Pernambuco, Alagoas, Amapá, Maranhão, Amazonas, Piauí, Paraíba, Bahia, and Acre – have the lowest C-YWI scores, as well. While most of the rankings are similar, there are a few notable changes when including the well-being of children.

The biggest change is the state of Rio de Janeiro, which moves from a ranking of 14 to 6 when the additional variables are added (Table 4). The primary factors behind this movement are in the health and institutional connectedness categories. In health, the poor AIDS rates are off-set by low infant mortality and low neo-natal mortality rates.

Rio de Janeiro is among the top six states in controlling these factors. Furthermore, while the AIDS rates of 0-10 year old children in Rio de Janeiro are above the national average, the rates are below those of the other states in the South, Southeast, and Central West, with the exception of the state of São Paulo and the Federal District. School attendance among 0-3 year old and 4-6 year old children in Rio de Janeiro is also among the top six performing state. This investment in early childhood education is likely to have significant impact on the future youth population, as various studies have shown a connection between early childhood investments and lower violence and substance abuse, better school attendance and performance, and greater job attachment and higher earnings as adults (Schweinhart, 2004). Furthermore, Rio de Janeiro and São Paulo children have the highest rates of fourth grade completion, and are likely obtaining the behavioral, as well as pedagical benefits, from greater school attendance (Blum 2002).

The states of Paraná, Ceará, and Espiritu Santo also improved their ranking with the addition of the childhood variables, though the responsible factors differ by state. The responsible factors in Parana were health and 4th grade completion; in Ceará, early childhood education was particularly high relative to the rest of the country; and children in Espiritu Santo had above average good performance in all the child variables.

The states that significantly fall in the rankings are Rio Grande do Sul, Rondonia, Pará, and, particularly, Tocatins (Table 4). The state of Tocatins falls from a ranking of seventh to 15th - the national average - with the addition of the child variables. The factors most responsible are average performance in the health variables and the worst performance of all the states in early childhood education and the second-lowest in pre-school education attendance rates. Rio Grande do Sul performed well in all the new variables except pre-school (age 4-6) education, where the state had the lowest rates (48.1 percent) in Brazil. This is surprising since early childhood (age 0-3) is above the national average. Rondônia also scores poorly in early childhood education and pre-school, but its health indicators are above the national average. Finally, children from Pará are at the national average for all the new indicators except graduation from 4th grade, where Pará has almost the worst performance in Brazil.

General Youth Well-Being Index

The addition of the socioeconomic variables to the C-YWI gives us the General Youth Well-Being Index (GYWI), which finds that most states retain their ranking with a few exceptions (Figure 4, Table 4). The top five are joined by Rio de Janeiro, due to above average levels of wealth, formal sector employment opportunities, and health care accessibility, relative to the rest of Brazil. The bigger issue in the state of Rio de Janeiro, which is not captured by these indicators, is access to these factors, since their youth are faring particularly poorly given the relative wealth of the state, relative to most of the other states in Brazil. The bottom eight ranking states are still the bottom ranking states. This is not surprising since they are among the poorest states, so they perform poorly in the socioeconomic category (Table 3, last column).

Besides Rio de Janeiro, the only other significant change in ranking was observed for Espíritu Santo, where the YWI ranking was 18th, the C-YWI ranking was 14th, and the GYWI ranking was 11th. The last improvement is due to better than average rankings in all the socioeconomic indicators, with the exception of a formal sector employment rate, equivalent to the national average (Annex 5). This has the result of raising the state to a ranking higher than the median position.

There were not significant declines in rank, either. However, it is notable that Rio Grande do Sul regained some of the position it lost when the child variables were added. It moved from 10th position in the C-YWI to 8th in the GYWI. This is still not as good as its 6th place ranking in the YWI, but it does suggest that the future of Rio Grande do Sul youth is perhaps better than the C-YWI would indicate. The improvement in ranking is due to its very high rankings in dual parent households, number of physicians per 1000 inhabitants, and low poverty (household income per capita) (Annex 5).

IV. **Conclusions**

The Brazilian Youth Well-Being Index shows that the situation of youth across Brazil varies greatly. While youth in some states, such as the Federal District and Santa Catarina, are doing well across nearly all indicators, others, particularly those in the Northeast and the North, consistently perform poorly. To track the progress of these

states in addressing the problems facing youth today, and in the future, it will be important to regularly re-calculate the index and observe its progress over time.

The three indices presented in this paper – the Youth Well-Being Index, Child-Youth Well-Being Index, and the General Youth Well-Being Index – are a Brazilian adaptation of the US-based Youth Well-Being Index, taking into consideration the factors that are important to the Brazilian context and the availability of data. They use different sets of variables to come up with a single measure of well-being for youth today (YWI) and for youth today and in the next generation (C-YWI). The GYWI takes into consideration the hypothesis from the ecological risk framework and includes in the measure environmental factors that affect child and youth development. These three indicators show very similar state rankings, suggesting that any of the three may be used to track youth progress. However, the similarity across indices also suggests that the situation of youth in Brazil is relatively static, since the states that have the poorest youth well-being indicators today are not making necessary investments to correct the situation for the future.

The index presented has some methodological shortcomings to address as the tool is used and refined. First, the quality of some of the indicators is questionable. Notably, the AIDS incidence indicators deserve further examination to ascertain their quality. Second, the alcohol and drug use indicators are from a special survey that reports results at the regional level. This survey will need to be repeated regularly and the results reported at the state level to provide greater variance and updating of the indicators for use in the index. A more random sample to include small cities and rural areas would also improve the quality of these indicators and thus the quality of the index. Third, information on new youth issues, such as obesity, incarceration/rehabilitation or youth participation, would further improve the applicability of the index to the Brazilian youth context.

Table 1: Indicators Used to Construct the Indices

Category	Indicator	Index for which the Indicator is Used			Year
		Youth WI	Child-Youth WI	General WI	
Health	Infant mortality rate (0-1)		X	X	2002
	Post-Neonatal mortality rate (28-365 days)		X	X	2002
	Share of 0-10 year olds with AIDS		X	X	2002
	Share of 11-17 year olds with AIDS	X	X	X	2002
	Share of 18-24 year olds with AIDS	X	X	X	2002
Behavior	Pregnancy rate – live births (age 15-19)	X	X	X	2002
	Suicide rate (age 15-24)	X	X	X	2002
	Homicide rate (age 15-24)	X	X	X	2002
	Morbidity rate due to "external causes" (females age 15-19)	X	X	X	2002
	Share of 12-17 year olds who have used alcohol	X	X	X	2001
	Share of 12-17 year olds who have used tobacco	X	X	X	2001
	Share of 12-17 year olds who have used marijuana	X	X	X	2001
	Share of 12-17 year olds who have used cocaine	X	X	X	2001
School Performance	Share of 4^{th} graders who complete the grade level		X	X	2002
	Share of 8^{th} graders who complete the grade level	X	X	X	2002
	Share of 11^{th} graders (*ensino medio*) who complete the grade level	X	X	X	2002
	Literacy rate (15-24)	X	X	X	2002
	Score on Portuguese language test, 8^{th} graders	X	X	X	2001
	Score on math test, 8^{th} graders	X	X	X	2001
	Score on Portuguese language test, 11^{th} graders	X	X	X	2001
	Score on math test, 11^{th} graders	X	X	X	2001
	Average years of education of the 14 year old population	X	X	X	2002
Institutional Connectedness	School attendance rates of 0-3 year olds		X	X	2002
	School attendance rates of 4-6 year olds		X	X	2002
	School attendance rates of 7-14 year olds	X	X	X	2002

	School attendance rates of 15-17 year olds	X	X	X	2002
	Unemployment rate of 15-24 year olds	X	X	X	2002
	Activity rate (in school or working) of 10-17 year olds	X	X	X	2002
	Share of 10-17 year olds without any activity	X	X	X	2002
	Share of working 16-24 years olds in formal sector jobs (*com carteira assinada*)	X	X	X	2002
	Share of 16-17 year olds who vote	X	X	X	2002
Socioeconomic Conditions	Share of people below the poverty line			X	2002
	Average household income per capita			X	2002
	Proportion of the workforce with a signed work contract (formal sector)			X	2002
	Number of physicians per 1000 habitants			X	2002
	Share of single mother households			X	2002

Table 2: Data Sources

Indicadors	Source
Health	
Infant (0 a 1 ano) and post-neonatal (1-12 months) mortality	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003 - Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Estatísticas do Registro Civil 2002*. www.ibge.gov.br
Share of 0-10 year olds, 11-17 year olds and 18-24 year olds with AIDS.	Ministry of Health. *Programa Nacional de DST e Aids – Dados e Pesquisas*. Data from 2002.www.aids.gov.br.
Behaviors	
Adolescent pregnancy rate – live births (age 15-19)	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003. Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Estatísticas do Registro Civil 2002*. www.ibge.gov.br on 10/09/2004
Adolescent suicide and homicide victimization rate (age 15-24)	UNESCO – *Mapa da violência IV: Os Jovens do Brasil* www.ibge.gov.br, 12/06/2004
Adolescent morbidity rate due to "external causes" (age 15-19)	Ministry of Health- *Sistema de Informações Hospitalares do SUS* (SIH/SUS) – 2002. www.tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/eruf.def, 06/09/2004
Ever used alcohol, tobacco, marijuana, cocaine (age 12-17)	Carlini, et. al. (2002) *I Levantamento sobre o Uso de Drogas Psicotrópicas no Brasil – 2001*.
Educational Performance	
Share of 4th, 8th, and 11th graders who complete the grade level	Ministry of Education/INEP/EDUDATABRASIL – *Sistema de Estatísticas Educaçionais* – 2002. www.edudatabrasil.inep.gov.br, 06/09/2004
Scores of 8th and 11th graders on Portuguese and math standardized tests	Ministry of Education (MEC)/*Instituto Nacional de Estudos e Pesquisas Educaçionais/Sistema Nacional de Avaliação da Educação Básica* (SAEB)- 2001. www.inep.gov.br/basica/saeb/estados_2004.htm, 28/08/2004
Average years of education of the 14 year old population	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003 - Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br, 10/09/2004.
Institutional connectedness	

School attendance rates of 0-3, 4-6, 7-14, and 15-24 year olds.	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003 - Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br, 10/09/2004.
Unemployment rate of 15-24 year olds	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003 - Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br, 10/09/2004.
Proportion of 10-17 year olds who work or work and study	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003, Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br, 10/09/2004.
Proportion of 10-17 year olds who neither work nor study	Brazilian Institute of Geography and Statistics (IBGE) - *Síntese de Indicadores Sociais 2003. Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br, 10/09/2004.
Proportion of 16-24 year olds in the labor force with formal sector employment	*Ministério do Trabalho e Emprego/Relação Anual das Informações Sociais (RAIS)/ Informações para o Sistema Público de Emprego e Renda* – 2002. www.mte.gov.br, 03/09/2004.
Proportin of 16-17 year olds who voted in the 2002 elections	*Tribunal Superior Eleitoral (TSE) – Eleições 2002/ Estatística do Eleitorado por Sexo e Faixa Etária - Pesquisa por UF*. www.tse.gov.br, 17/06/2004.
Socioeconomic Status	
Share of people below the poverty line	IPEA (*Instituto de Pesquisa Econômica Aplicada*). *Dados Regionais – Brasil – Indicadores Sociais – Renda* - 2002. www.ipedata.gov.br
Average household income per capita	IPEA (*Instituto de Pesquisa Econômica Aplicada*). *Dados Regionais – Brasil – Indicadores Sociais – Renda* - 2002. www.ipedata.gov.br
Share of workforce with a signed work contract (formal sector)	IPEA (*Instituto de Pesquisa Econômica Aplicada*). *Dados Regionais – Brasil – Indicadores Sociais – Mercado de Trabalho* - 2002. www.ipedata.gov.br
Number of physicians per 1000 habitants	IBGE, *Diretoria de Pesquisas, Departamento de População e Indicadores Sociais, Pesquisa e Assistência Médico-Sanitária* - 2002. www.ibge.gov.br

Share of single mother households	IBGE – *Síntese dos Indicadores Sociais 2003 - Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais, Pesquisa Nacional por Amostra de Domicílios* 2002. www.ibge.gov.br

Table 3: State Ranking for each Category of Indicators and the YWI

State	Region*	YWI Rank	Ranking of Sub-Category of the YWI				Socioeconomic Rank (not used to generate the YWI)
			Health	Behavior	School performance	Institutional connectedness	
Distrito Federal	CW	1	17	3	4	1	1
Santa Catarina	S	2	22	20	1	2	5
Goiás	CW	3	3	1	11	13	10
São Paulo	CE	4	21	24	2	3	3
Minas Gerais	CE	5	1	17	5	14	11
Rio Grande do Sul	S	6	27	21	3	11	4
Tocatins	N	7	10	2	15	19	22
Roraima	N	8	2	14	14	8	13
Rondônio	N	9	11	7	10	24	12
Mato Grosso	CW	10	4	12	12	21	9
Mato Grosso do Sul	CW	11	9	18	9	15	7
Paraná	S	12	18	19	7	7	6
Pará	N	13	6	4	17	20	19
Rio de Janeiro	CW	14	14	27	6	6	2
Ceará	NE	15	15	6	16	5	23
Sergipe	NE	16	13	10	22	12	20
Rio Grande do Norte	NE	17	12	13	19	4	14
Espírito Santo	SE	18	8	26	8	18	8
Acre	N	19	24	16	18	16	16
Bahia	NE	20	7	5	24	17	24
Paraíba	NE	21	20	9	25	9	21
Piauí	NE	22	16	15	21	10	26
Amazonas	N	23	5	11	23	27	17
Maranhão	NE	24	19	8	20	26	27
Amapá	N	25	23	23	13	22	15
Alagoas	NE	26	26	22	27	25	25
Permanbuco	NE	27	25	25	26	23	18
correlation with YWI			0.30	0.22	0.81	0.55	0.68

***** CW=Center West, CE = Center East, NE = Northeast, N = North, S = South

Table 4: Ranking of Each State by score on the YWI, C-YWI, and GYWI

	YWI	C-YWI	GYWI
Federal District	1	1	1
Santa Catarina	2	2	2
Goiás	3	5	6
São Paulo	4	3	3
Minas Gerais	5	4	4
Rio Grande do Sul	6	10	8
Tocantins	7	15	16
Roraima	8	8	12
Rondônia	9	13	13
Mato Grosso	10	12	10
Mato Grosso do Sul	11	9	9
Paraná	12	7	7
Pará	13	16	17
Rio de Janeiro	14	6	5
Ceará	15	11	14
Sergipe	16	18	18
Rio Grande do Norte	17	17	15
Espírito Santo	18	14	11
Acre	19	22	19
Bahia	20	20	20
Paraíba	21	21	22
Piauí	22	19	23
Amazonas	23	23	24
Maranhão	24	25	25
Amapá	25	24	21
Alagoas	26	27	27
Pernambuco	27	26	26

Figure 1: Brazilian Youth Well-Being Index, by State

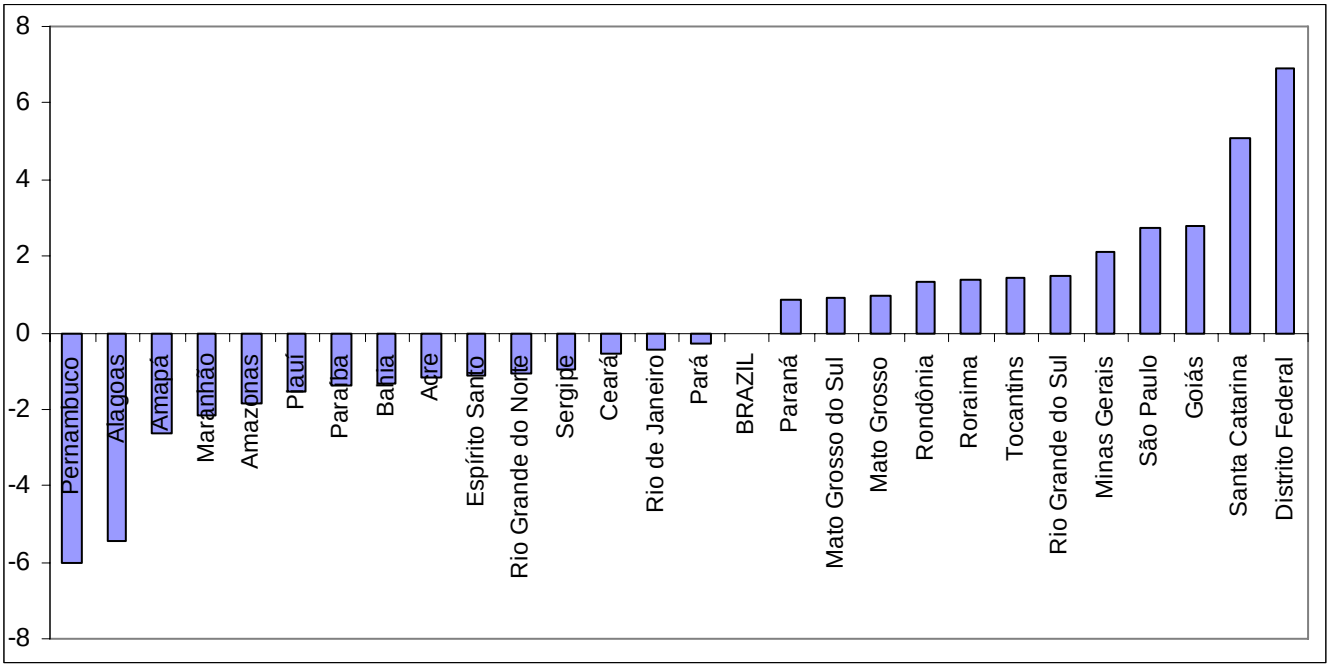


Figure 2: Deviation from the base (100) of the YWI and the standardized score from the health category (used to create the YWI)

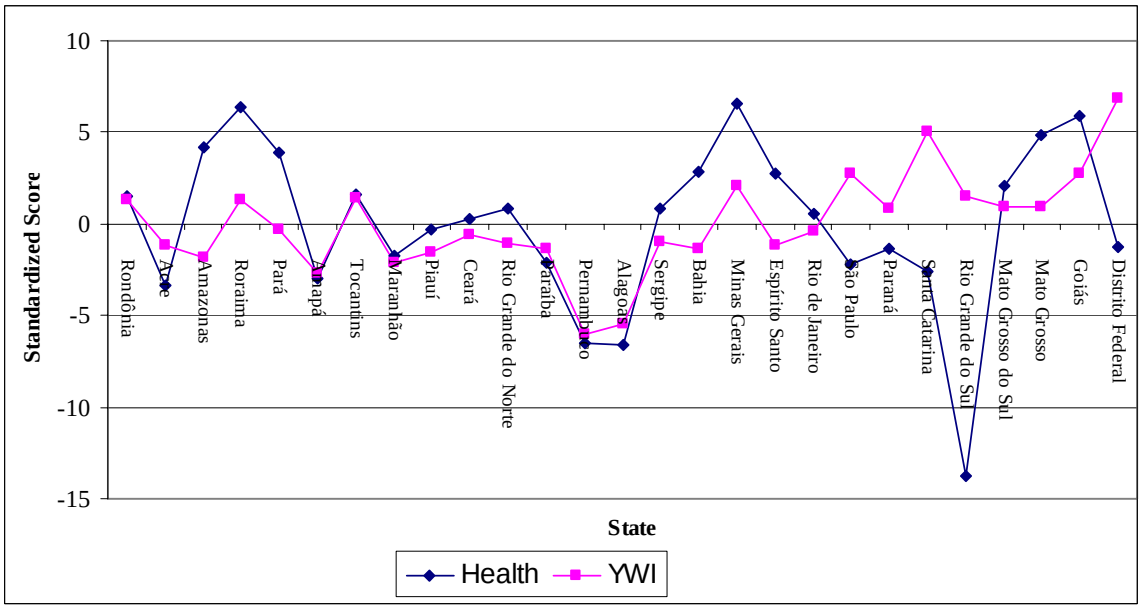


Figure 3: Deviation from the base (of 100) of the YWI and the standardized score from the behavior category (used to create the YWI)

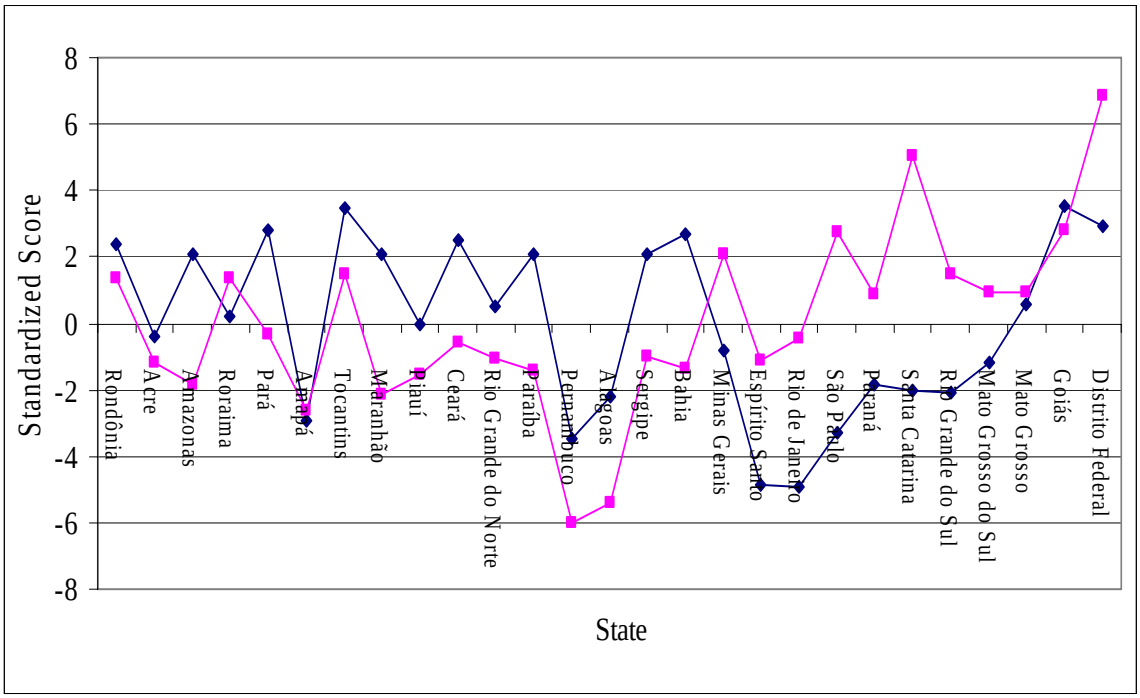


Figure 4: YWI, C-YWI, and GWI by state: 2002

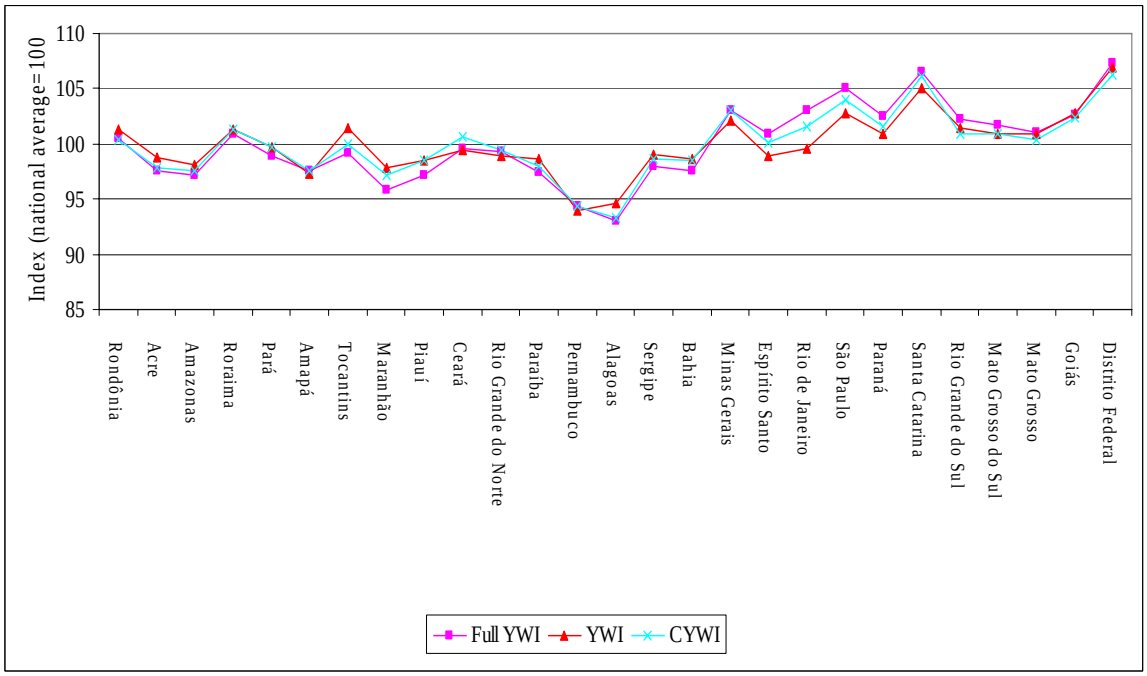


Figure 5: General Youth Well-Being Index, by State

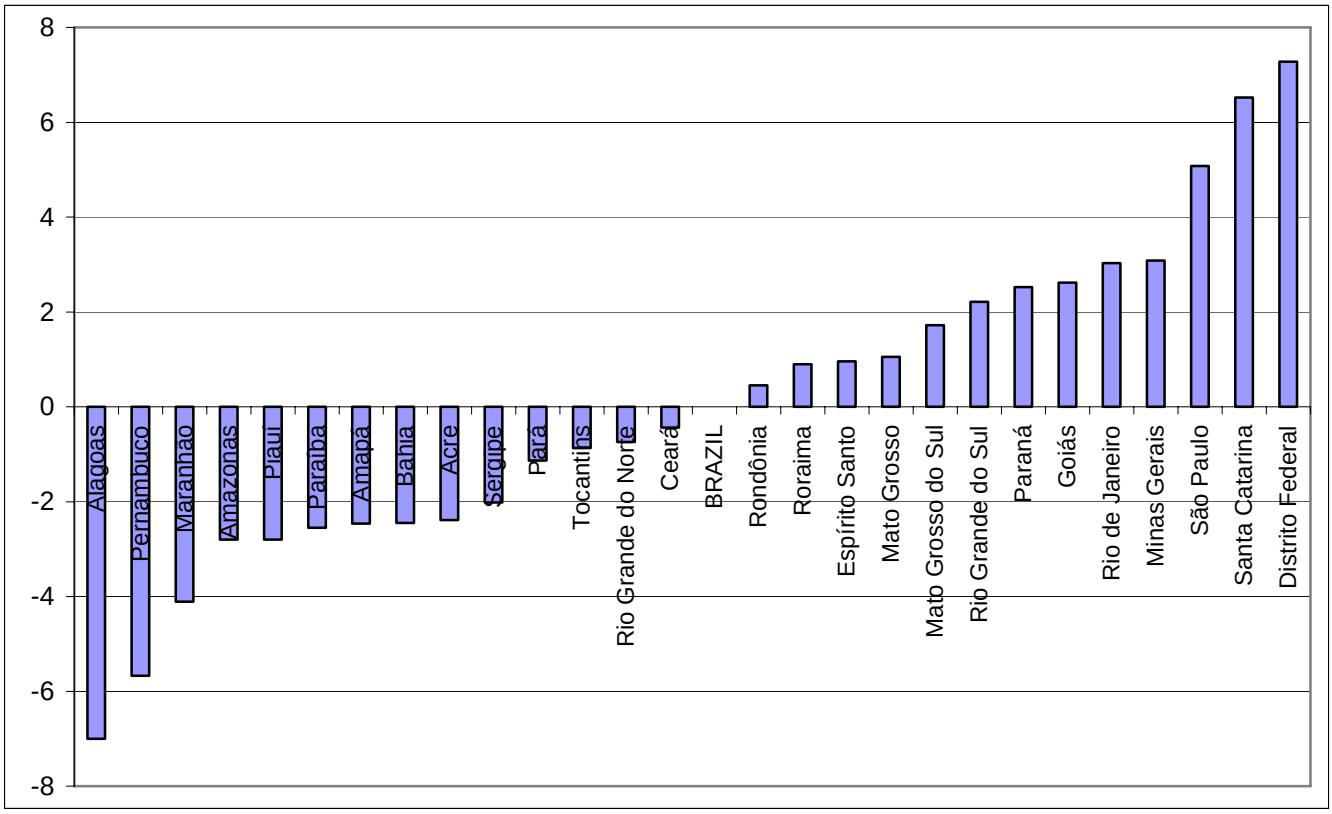
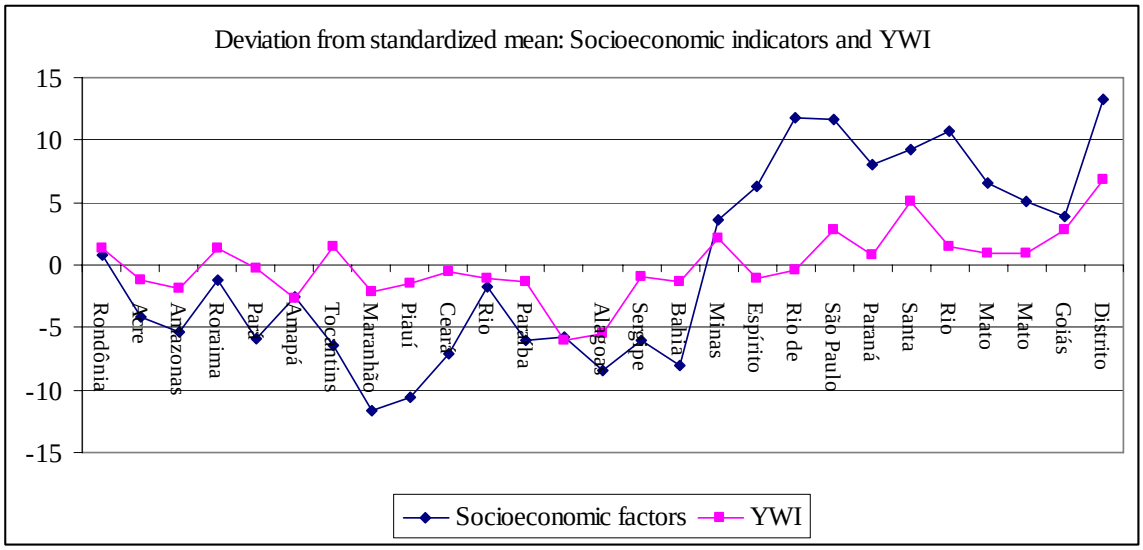


Figure 6: Deviation from the base (of 100) of the YWI and the standardized score from the Socioeconomic variables (used to create the FYWI)



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Annex 1: Health

UF	Infant mortality rate (0-1)	Standardized Score	Post-neonatal mortality rate (1-12 months)	Standardized Score	Share of 0-10 year olds with AIDs	Standardized Score	Share of 11-17 year olds with AIDs	Standardized Score	Share of 18-24 year olds with AIDs	Standardized Score
Rondônia	24.60	103.79	7.90	105.01	0.57	104.14	0.89	86.97	2.00	107.42
Acre	33.20	96.22	14.70	94.17	0.61	103.79	1.06	82.71	2.41	106.51
Amazonas	28.80	100.09	11.10	99.91	0.12	108.42	0.21	104.20	1.66	108.20
Roraima	17.80	109.77	7.60	105.49	0	109.56	0	109.54	6.37	97.53
Pará	27.30	101.41	10.10	101.51	0.47	105.13	0.19	104.73	2.31	106.72
Amapá	24.90	103.53	6.60	107.09	0.70	102.91	1.22	78.65	8.35	93.05
Tocantins	28.40	100.45	11.40	99.43	1.01	100.04	0	109.54	6.01	98.36
Maranhão	46.30	84.70	19.40	86.68	0.19	107.70	0.09	107.10	3.07	105.00
Piauí	33.10	96.31	11.60	99.11	0.59	103.96	0.39	99.44	5.43	99.67
Ceará	35.10	94.55	14.10	95.13	0.27	106.94	0.33	101.12	3.78	103.40
Rio Grande do Norte	41.90	88.57	19.00	87.32	0.16	108.05	0	109.54	0.52	110.78
Paraíba	45.50	85.40	18.90	87.48	0.91	100.99	0	109.54	2.73	105.78
Pernambuco	44.80	86.02	20.10	85.56	1.36	96.78	0.24	103.37	7.13	95.82
Alagoas	57.70	74.66	30.70	68.66	0.27	106.96	0	109.54	2.21	106.94
Sergipe	40.60	89.71	14.70	94.17	0.69	103.00	0	109.54	1.93	107.59
Bahia	38.70	91.38	13.50	96.08	0.16	107.98	0	109.54	1.28	109.05
Minas Gerais	20.80	107.13	6.10	107.88	0.16	108.02	0.15	105.56	3.34	104.39
Espírito Santo	20.90	107.05	6.20	107.72	1.42	96.19	0.44	98.39	3.41	104.23
Rio de Janeiro	19.50	108.28	5.70	108.52	0.60	103.90	0.75	90.52	9.05	91.47
São Paulo	17.40	110.13	5.40	109.00	2.20	88.80	0.78	89.79	9.09	91.37
Paraná	20.70	107.22	6.20	107.72	1.90	91.67	0.68	92.27	7.80	94.30
Santa Catarina	18.20	109.42	6.50	107.25	1.37	96.60	0.53	95.92	15.11	77.77
Rio Grande do Sul	15.40	111.89	5.90	108.20	4.73	65.10	1.14	80.59	20.62	65.29
Mato Grosso do Sul	19.20	108.54	6.00	108.04	1.94	91.26	0.32	101.26	4.61	101.52

Mato Grosso	21.50	106.52	6.50	107.25	1.04	99.79	0	109.54	4.73	101.25
Goiás	20.70	107.22	7.10	106.29	0.65	103.39	0	109.54	4.04	102.82
Distrito Federal	17.50	110.04	5.20	109.32	3.26	78.92	0.71	91.57	3.61	103.78
National Average	28.91	100.00	11.04	100.00	1.02	100.00	0.38	100.00	5.29	100.00
Standard Error	11.36	10.00	6.27	10.00	1.06	10.00	0.40	10.00	4.42	10.00

Annex 2: Behaviors

UF	Pregnancy Rate – live births (15-19)	Standardized Score	Suicide Rate (age 15-24)	Standardized Score	Homicíde Rate (age 15-24)	Standardized Score	Morbidity Rate due to External causes (age 15-19)	Standardized Score	Alcohol use rates (age 12-17)	Standardized Score	Tobacco use rates (age 12-17)	Standardized Score	Marijuana use rates (age 12-17)	Standardized Score	Cocaine use rates (age 12-17)	Standardized Score
Rondônia	25.40	87.03	4.90	102.90	57.00	97.54	0.60	117.68	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Acre	25.90	85.23	6.20	98.88	52.30	99.17	2.10	99.53	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Amazonas	22.50	97.46	5.50	101.04	33.10	105.85	2.21	98.20	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Roraima	22.80	96.38	14.70	72.62	68.20	93.64	0.00	124.93	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Pará	25.30	87.39	4.00	105.68	29.80	107.00	1.37	108.36	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Amapá	22.90	96.02	13.80	75.40	81.20	89.12	1.91	101.83	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Tocantins	26.80	81.99	3.50	107.22	21.50	109.89	0.86	114.53	25.50	113.56	14.50	99.94	4.00	92.35	0.00	108.24
Maranhão	23.80	92.78	2.90	109.07	15.00	112.15	1.79	103.28	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Piauí	23.80	92.78	5.50	101.04	19.90	110.45	2.41	95.78	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Ceará	19.70	107.53	6.40	98.26	31.00	106.58	1.40	108.00	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Rio Grande do Norte	21.90	99.61	4.30	104.75	16.90	111.49	2.99	88.77	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Paraíba	21.70	100.33	2.20	111.24	32.00	106.23	2.11	99.41	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Pernambuco	21.30	101.77	3.70	106.60	103.40	81.39	3.47	82.96	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Alagoas	21.90	99.61	4.70	103.51	62.20	95.73	3.38	84.05	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Sergipe	20.60	104.29	4.30	104.75	53.70	98.68	1.28	109.45	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Bahia	23.40	94.22	1.90	112.16	23.10	109.33	1.54	106.31	45.80	95.59	14.30	100.71	2.40	103.37	0.50	99.88
Minas Gerais	18.00	113.64	4.70	103.51	30.70	106.69	2.15	98.93	53.70	88.60	16.80	91.16	4.40	89.59	0.40	101.55
Espírito Santo	20.10	106.09	3.80	106.29	103.70	81.29	2.36	96.39	53.70	88.60	16.80	91.16	4.40	89.59	0.40	101.55
Rio de Janeiro	18.30	112.56	2.90	109.07	118.90	76.00	2.71	92.16	53.70	88.60	16.80	91.16	4.40	89.59	0.40	101.55
São Paulo	17.60	115.08	4.10	105.37	81.00	89.19	2.61	93.37	53.70	88.60	16.80	91.16	4.40	89.59	0.40	101.55
Paraná	20.00	106.45	6.30	98.57	45.50	101.54	1.77	103.53	54.50	87.89	18.70	83.91	3.60	95.10	0.00	108.24
Santa Catarina	18.80	110.76	7.10	96.10	16.80	111.52	2.86	90.34	54.50	87.89	18.70	83.91	3.60	95.10	0.00	108.24

Rio Grande do Sul	18.10	113.28	7.80	93.93	35.60	104.98	2.38	96.15	54.50	87.89	18.70	83.91	3.60	95.10	0.00	108.24
Mato Grosso do Sul	24.10	91.70	12.70	78.79	48.90	100.35	2.43	95.54	33.30	106.66	9.40	119.41	0.00	119.89	1.80	78.14
Mato Grosso	24.50	90.26	6.60	97.64	51.40	99.48	2.62	93.24	33.30	106.66	9.40	119.41	0.00	119.89	1.80	78.14
Goiás	22.70	96.74	7.10	96.10	40.90	103.14	1.40	108.00	33.30	106.66	9.40	119.41	0.00	119.89	1.80	78.14
Distrito Federal	16.50	119.03	6.00	99.50	74.10	91.59	2.95	89.25	33.30	106.66	9.40	119.41	0.00	119.89	1.80	78.14
National Average	21.79	100.00	5.84	100.00	49.92	100.00	2.06	100.00	40.82	100.00	14.49	100.00	2.89	100.00	0.49	100.00
Standard Deviation	2.78	10.00	3.24	10.00	28.74	10.00	0.83	10.00	11.30	10.00	2.62	10.00	1.45	10.00	0.60	10.00

Annex 3: School Performance

UF	Score on Portuguese language test. 8th graders	Standardized Score	Score on mathematics test. 8th graders	Standardized Score	Score on Portuguese language test. 11th graders	Standardized Score	Score on mathematics test. 11th graders	Standardized Score	Share of 11th graders who complete the grade level	Standardized Score	Share of 4th graders who complete the grade level	Standardized Score	Share of 8th graders who complete the grade level	Standardized Score	Average years of education of 14 year olds	Standardized Score	Literacy rate of 15-24 year olds	Standardized Score
Rondônia	237.40	104.76	240.70	101.57	260.70	102.57	275.20	102.64	74.30	99.55	82.20	104.46	76.30	99.94	5.40	102.67	98.80	107.91
Acre	222.50	90.56	223.10	86.36	247.00	92.24	258.40	91.48	75.90	102.86	72.40	92.34	81.30	107.50	5.30	101.28	94.30	96.93
Amazonas	221.20	89.32	226.30	89.13	240.80	87.57	243.80	81.78	72.30	95.41	71.50	91.22	72.80	94.64	4.90	95.74	98.60	107.42
Roraima	229.40	97.14	234.60	96.30	240.60	87.42	253.00	87.89	74.10	99.13	82.60	104.96	85.00	113.10	5.50	104.05	97.90	105.71
Pará	235.70	103.14	235.50	97.08	253.10	96.84	259.30	92.08	70.50	91.69	67.30	86.03	77.10	101.15	4.60	91.59	96.40	102.05
Amapá	232.50	100.09	231.80	93.88	252.50	96.39	255.60	89.62	74.70	100.38	76.40	97.29	81.40	107.65	5.40	102.67	99.30	109.13
Tocantins	227.90	95.71	232.30	94.31	237.40	85.00	255.00	89.22	77.40	105.96	79.30	100.88	82.90	109.92	4.90	95.74	96.30	101.81
Maranhão	215.60	83.99	223.10	86.36	246.10	91.56	257.10	90.61	82.10	115.68	76.50	97.41	78.20	102.81	4.40	88.82	91.00	88.87
Piauí	228.90	96.66	239.60	100.62	258.80	101.14	270.70	99.65	75.50	102.03	70.90	90.48	73.30	95.40	3.80	80.51	87.20	79.59
Ceará	219.60	87.80	226.20	89.04	254.00	97.52	266.70	96.99	77.40	105.96	82.20	104.46	78.40	103.12	4.90	95.74	92.70	93.02
Rio Grande do Norte	228.20	95.99	233.70	95.52	245.10	90.81	259.10	91.94	75.90	102.86	73.90	94.19	70.70	91.47	4.90	95.74	90.90	88.62
Paraíba	224.60	92.56	232.00	94.05	244.10	90.06	265.90	96.46	75.30	101.62	70.30	89.74	69.90	90.26	4.20	86.05	88.80	83.50
Pernambuco	217.80	86.08	226.00	88.87	245.00	90.73	260.40	92.81	75.10	101.20	73.10	93.20	69.10	89.05	4.60	91.59	91.40	89.85
Alagoas	216.60	84.94	225.50	88.43	246.70	92.02	261.30	93.40	71.10	92.93	67.80	86.65	68.00	87.38	4.00	83.28	85.30	74.95
Sergipe	226.50	94.37	231.60	93.71	248.20	93.15	267.00	97.19	74.10	99.13	65.50	83.80	68.40	87.99	4.40	88.82	93.30	94.48
Bahia	225.90	93.80	232.30	94.31	250.00	94.50	267.60	97.59	71.40	93.55	66.10	84.54	64.00	81.33	4.50	90.20	94.20	96.68
Minas Gerais	242.50	109.62	254.90	113.85	266.50	106.94	280.30	106.03	73.30	97.48	89.00	112.88	83.60	110.98	5.80	108.21	97.70	105.23
Espírito Santo	240.60	107.81	246.40	106.50	265.80	106.42	280.50	106.16	69.10	88.79	84.40	107.19	79.20	104.33	5.70	106.82	98.60	107.42
Rio de Janeiro	247.40	114.29	251.50	110.91	272.50	111.47	280.90	106.42	72.20	95.20	86.10	109.29	76.70	100.54	5.70	106.82	98.70	107.67
São Paulo	237.20	104.57	247.10	107.10	266.10	106.64	279.90	105.76	84.20	120.02	94.50	119.68	90.60	121.57	6.30	115.13	98.80	107.91
Paraná	240.50	107.72	247.40	107.36	260.50	102.42	280.00	105.83	72.70	96.24	88.60	112.38	81.10	107.20	6.20	113.75	98.70	107.67

Santa Catarina	245.90	112.86	260.10	118.34	273.60	112.30	292.10	113.86	90.40	132.85	90.50	114.73	87.50	116.88	6.10	112.36	99.20	108.89
Rio Grande do Sul	252.40	119.05	260.40	118.60	285.40	121.19	309.00	125.09	70.00	90.65	87.00	110.40	78.00	102.51	6.00	110.98	98.80	107.91
Mato Grosso do Sul	244.80	111.81	250.80	110.30	275.10	113.43	288.50	111.47	68.00	86.52	77.60	98.77	67.30	86.32	5.80	108.21	98.70	107.67
Mato Grosso	231.90	99.52	239.00	100.10	266.40	106.87	280.00	105.83	69.00	88.59	80.80	102.73	71.40	92.53	5.50	104.05	98.10	106.20
Goiás	232.30	99.90	240.30	101.23	261.90	103.48	280.10	105.89	73.90	98.72	81.80	103.97	74.30	96.91	5.60	105.44	97.80	105.47
Distrito Federal	249.10	115.91	257.60	116.18	282.90	119.31	295.80	116.32	72.10	95.00	83.70	106.32	74.70	97.52	6.20	113.75	98.60	107.42
National Average	232.40	100.00	238.88	100.00	257.29	100.00	271.23	100.00	74.52	100.00	78.59	100.00	76.34	100.00	5.21	100.00	95.56	100.00
Standard Deviation	10.49	10.00	11.57	10.00	13.26	10.00	15.05	10.00	4.83	10.00	8.08	10.00	6.61	10.00	0.72	10.00	4.10	10.00

Annex 4: Institutional Connectedness

UF	School attendance rates. 0 - 3 year olds	Standardized Score	School attendance rates. 4 to 6 year olds	Standardized Score	School attendance rates.. 7 to 14 year olds	Standardized Score	School attendance rates. 15 to 17 year olds	Standardized Score	Unemployment rate. 15 to 24 year olds	Standardized Score	Activity rate (in school or work). 10 to 17 year olds	Standardized Score	Share of 10 to 17 year olds without any activity	Standardized Score	Share of working 16-24 year olds in the formal sector	Standardized Score	Share of 16-17 year olds who votes	Standardized Score
Rondônia	4.80	86.50	49.00	82.58	95.10	93.29	75.90	87.57	12.90	106.32	19.00	100.69	1.80	101.25	13.40	97.87	41.40	103.18
Acre	3.70	83.78	61.60	96.67	95.50	95.87	80.80	100.66	11.90	107.93	19.40	100.11	1.80	101.25	8.50	92.56	52.93	113.95
Amazonas	7.20	92.43	57.10	91.64	94.00	86.19	85.00	111.88	25.30	86.36	10.70	112.73	2.40	90.60	8.91	93.01	28.80	91.40
Roraima	15.60	113.19	58.50	93.20	91.50	70.07	82.60	105.47	8.10	114.04	6.00	119.54	2.80	83.50	8.88	92.97	56.78	117.54
Pará	9.80	98.86	70.30	106.40	95.70	97.16	80.30	99.33	20.00	94.89	17.00	103.59	1.60	104.80	6.88	90.80	26.72	89.46
Amapá	5.10	87.24	61.10	96.11	95.10	93.29	87.60	118.83	35.40	70.11	7.00	118.09	3.10	78.18	7.96	91.97	50.16	111.35
Tocantins	3.00	82.05	52.00	85.94	95.70	97.16	84.40	110.28	13.80	104.87	28.80	86.48	1.30	110.12	10.75	95.00	53.80	114.76
Maranhão	7.10	92.19	68.50	104.39	94.50	89.42	76.20	88.37	10.40	110.34	26.60	89.67	2.20	94.15	4.11	87.80	38.29	100.27
Piauí	9.10	97.13	67.40	103.16	95.90	98.45	80.30	99.33	10.90	109.54	28.70	86.63	1.20	111.90	5.46	89.26	51.55	112.65
Ceará	15.00	111.70	80.70	118.03	96.50	102.32	80.90	100.93	15.80	101.65	25.20	91.70	1.70	103.02	10.52	94.75	39.29	101.21
Rio Grande do Norte	15.80	113.68	78.50	115.57	96.20	100.38	78.40	94.25	11.50	108.57	17.60	102.72	2.90	81.73	11.97	96.32	52.01	113.09
Paraíba	10.30	100.09	73.80	110.31	95.80	97.80	80.60	100.13	14.50	103.74	24.00	93.44	1.90	99.47	8.08	92.10	49.93	111.15
Pernambuco	12.10	104.54	69.60	105.61	95.70	97.16	77.40	91.58	18.10	97.95	24.80	92.28	2.70	85.28	9.78	93.95	30.49	92.98
Alagoas	7.60	93.42	66.40	102.04	94.30	88.13	76.80	89.98	14.30	104.07	21.60	96.92	2.10	95.93	9.45	93.59	30.38	92.88
Sergipe	9.50	98.11	74.70	111.32	96.20	100.38	80.30	99.33	20.10	94.73	20.10	99.10	1.50	106.57	10.25	94.46	37.88	99.89
Bahia	9.40	97.87	69.80	105.84	96.20	100.38	83.20	107.08	17.50	98.92	24.90	92.14	1.70	103.02	8.42	92.47	29.56	92.12
Minas Gerais	9.60	98.36	63.50	98.80	97.60	109.41	79.10	96.12	17.20	99.40	20.70	98.23	1.90	99.47	19.88	104.90	27.59	90.27
Espírito Santo	13.20	107.26	66.90	102.60	96.50	102.32	73.60	81.43	18.70	96.98	22.10	96.20	1.60	104.80	19.97	104.99	28.00	90.65
Rio de Janeiro	14.50	110.47	75.20	111.88	97.40	108.12	84.90	111.62	25.10	86.68	7.60	117.22	2.30	92.38	19.83	104.84	17.71	81.04
São Paulo	14.50	110.47	70.70	106.84	98.20	113.28	86.90	116.96	22.70	90.55	11.70	111.28	1.60	104.80	28.59	114.34	21.56	84.64
Paraná	13.20	107.26	58.30	92.98	97.70	110.06	77.40	91.58	14.00	104.55	22.10	96.20	1.80	101.25	24.27	109.66	35.55	97.71

Santa Catarina	18.70	120.85	68.30	104.16	98.30	113.93	80.50	99.86	10.40	110.34	23.90	93.59	1.00	115.45	35.05	121.34	32.51	94.87
Rio Grande do Sul	11.30	102.56	48.10	81.58	97.80	110.70	79.30	96.66	15.50	102.13	23.60	94.02	1.50	106.57	26.66	112.25	36.64	98.72
Mato Grosso do Sul	11.90	104.04	58.90	93.65	96.60	102.96	77.00	90.51	15.00	102.94	22.80	95.18	1.80	101.25	19.64	104.63	36.28	98.39
Mato Grosso	6.80	91.44	51.50	85.38	95.60	96.51	76.80	89.98	13.30	105.67	23.80	93.73	1.90	99.47	19.36	104.34	49.32	110.57
Goiás	6.30	90.21	54.20	88.40	97.50	108.77	81.00	101.20	13.40	105.51	20.50	98.52	1.70	103.02	18.34	103.22	35.80	97.94
Distrito Federal	12.00	104.29	69.00	104.94	98.70	116.51	87.70	119.10	28.50	81.21	5.70	119.98	0.70	120.77	39.91	126.60	35.15	97.33
National Average	10.26	100.00	64.58	100.00	96.14	100.00	80.55	100.00	16.83	100.00	19.48	100.00	1.87	100.00	15.36	100.00	38.00	100.00
Standard Deviation	4.05	10.00	8.94	10.00	1.55	10.00	3.74	10.00	6.21	10.00	6.90	10.00	0.56	10.00	9.23	10.00	10.70	10.00

Annex 5: Socioeconomic Variables

UF	Share of people below the poverty line	Standarized Score	Average Household Inocme per capita	Standarized Score	Share of the labor force in the formal sector	Standarized Score	Number o f physicians per 1000 inhabitants	Standarized Score	Shrare of female headed households	Standarized Score
Rondônia	0.30	104.01	333.39	100.78	0.64	107.77	1.36	89.56	18.00	102.01
Acre	0.40	98.00	365.48	103.35	0.63	106.88	1.40	90.06	23.60	81.20
Amazonas	0.40	98.00	252.94	94.32	0.63	106.88	1.50	91.30	23.20	82.68
Roraima	0.40	98.00	246.19	93.77	0.67	110.45	1.62	92.78	18.90	98.66
Pará	0.40	98.00	284.36	96.84	0.59	103.31	1.16	87.09	22.50	85.28
Amapá	0.40	98.00	269.81	95.67	0.63	106.88	1.37	89.69	19.30	97.18
Tocantins	0.50	91.99	220.60	91.72	0.45	90.80	1.35	89.44	17.50	103.87
Maranhão	0.60	85.98	167.12	87.42	0.36	82.77	1.06	85.85	18.70	99.41
Piauí	0.60	85.98	194.67	89.63	0.33	80.09	1.73	94.15	19.30	97.18
Ceará	0.50	91.99	233.57	92.76	0.46	91.70	1.66	93.28	20.00	94.58
Rio Grande do Norte	0.50	91.99	227.96	92.31	0.56	100.63	2.44	102.94	17.60	103.50
Paraíba	0.50	91.99	216.54	91.39	0.44	89.91	2.01	97.61	18.90	98.66
Pernambuco	0.60	85.98	264.76	95.26	0.47	92.59	2.36	101.95	19.70	95.69
Alagoas	0.60	85.98	176.26	88.16	0.40	86.34	1.84	95.51	18.00	102.01
Sergipe	0.50	91.99	223.15	91.92	0.50	95.27	2.44	102.94	21.80	87.89
Bahia	0.60	85.98	243.38	93.55	0.40	86.34	1.97	97.12	19.40	96.81
Minas Gerais	0.20	110.02	343.66	101.60	0.58	102.41	2.92	108.88	19.80	95.32
Espírito Santo	0.20	110.02	363.60	103.20	0.56	100.63	3.04	110.37	16.60	107.21
Rio de Janeiro	0.20	110.02	482.71	112.77	0.71	114.03	4.15	124.12	19.10	97.92
São Paulo	0.20	110.02	517.60	115.57	0.70	113.13	3.32	113.84	17.00	105.73
Paraná	0.20	110.02	419.00	107.65	0.59	103.31	2.65	105.54	14.80	113.90
Santa Catarina	0.10	116.02	428.83	108.44	0.60	104.20	2.37	102.07	14.30	115.76

Rio Grande do Sul	0.20	110.02	484.37	112.90	0.55	99.74	3.38	114.58	14.20	116.13
Mato Grosso do Sul	0.20	110.02	370.07	103.72	0.58	102.41	2.71	106.28	15.80	110.19
Mato Grosso	0.20	110.02	362.41	103.11	0.52	97.06	1.82	95.26	13.20	119.85
Goiás	0.20	110.02	338.66	101.20	0.59	103.31	2.30	101.21	17.60	103.50
Distrito Federal	0.20	110.02	709.29	130.97	0.79	121.17	3.54	116.56	21.80	87.89
	0.37	100.00	323.72	100.00	0.55	100.00	2.20	100.00	18.54	100.00
National Average										
Standard deviation	0.17	10.00	124.50	10.00	0.11	10.00	0.81	10.00	2.69	10.00